



Oxford Cambridge and RSA

Level 3 Certificate in Sustainability

H082 Unit F227: Fundamentals of sustainability

Sample Assessment Material (SAM)

Time allowed: 1 hour 15 minutes

You can use:

- A calculator

Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

Date of birth

D	D	M	M	Y	Y	Y	Y
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INSTRUCTIONS

- Use black ink.
- Write your answer to each question in the space provided. You can use extra paper if you need to, but you must clearly show your candidate number, the centre number and the question numbers.
- In the live exam there might be lined pages at the end of the question paper for you to use if you need extra space. Remember, you must clearly show the question numbers.
- Answer **all** the questions.

INFORMATION

- The total mark for this paper is **60**.
- The marks for each question are shown in brackets [].
- This document consists of **16** pages.

ADVICE

- Read each question carefully before you start your answer.

- 1 Finley is becoming increasingly interested in sustainability and keen to save the planet's resources, even if it means additional effort and cost for them.
- (a) Finley has recently read several articles about the benefits of recycling. They have decided to try a new plastic recycling service at their local supermarket.

Which driver of behavioural change has encouraged Finley to use the new recycling service?

Tick (✓) **one** box.

Changes in the law

☐

Education

☐

Financial incentives

☐

Government policies

☐

[1]

- (b) Peer pressure can encourage people to recycle more.

State **two** advantages of peer pressure as a driver for behavioural change.

1

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2

.....

[2]

- 2** Which **two** of the following examples are climate change mitigation strategies?

Tick (✓) **two** boxes.

Deforestation

☐

Increased greenhouse gas emissions

☐

Increased use of solar energy

☐

Purchase a second-hand diesel car

☐

Replace appliances with more energy efficient models

☐

[2]

- 3** Complete the sentences below, regarding the economic problem.

Use words from the list.

choice

competition

need

opportunity costs

profit

scarcity

supply

want

All individuals and businesses have needs and wants. occurs

when the demand for a resource or product is greater than the amount that can be supplied.

A is something that is essential for human survival.

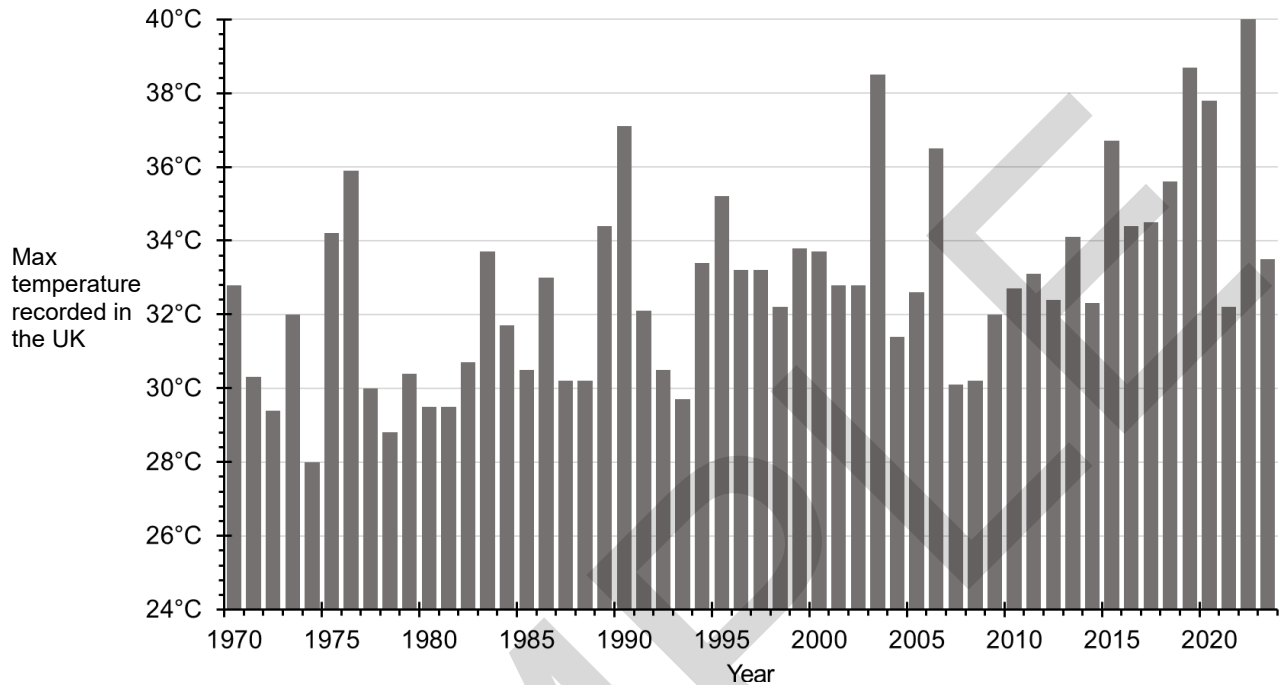
Choices are often made because of limited resources which can lead to

.....

[3]

- 4 Finley and their family recently moved to a new housing estate. The housing developer designed the estate to include green spaces with trees and plants to attract insects and other wildlife. The housing developer also included a flood protection scheme.

The housing developer held a climate change information event. The graph below was displayed to show the temperature of the hottest day of each year in the UK since 1970.



- (a) Using the data in the graph, describe **two** trends for UK temperatures.

1

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2

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[2]

- (b) Identify **two** effects of climate change the developers of Finley's housing estate have responded to.

1

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2

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[2]

- (c) Explain **two** climate change adaptation strategies that the developers of Finley's house used when designing the housing development.

1

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2

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[4]

- 5 Since attending the climate change information event, Finley has become concerned about the effects of climate change and is keen to live a more sustainable lifestyle. They have researched the United Nations Sustainable Development Goals (UN SDGs).

State the title of **two** of the seventeen United Nations Sustainable Development Goals (UN SDGs).

1

2

[2]

The UK government introduced a grant to help homeowners pay for solar panels, which Finley applied for. Being able to afford solar panels has given Finley the personal satisfaction of doing their bit to help the climate crisis and to act as a role model to encourage neighbours to make a similar investment. Finley's energy bill will also be reduced by £500 per year.

Tick (✓) **one** box in each row to categorise the type of government intervention.

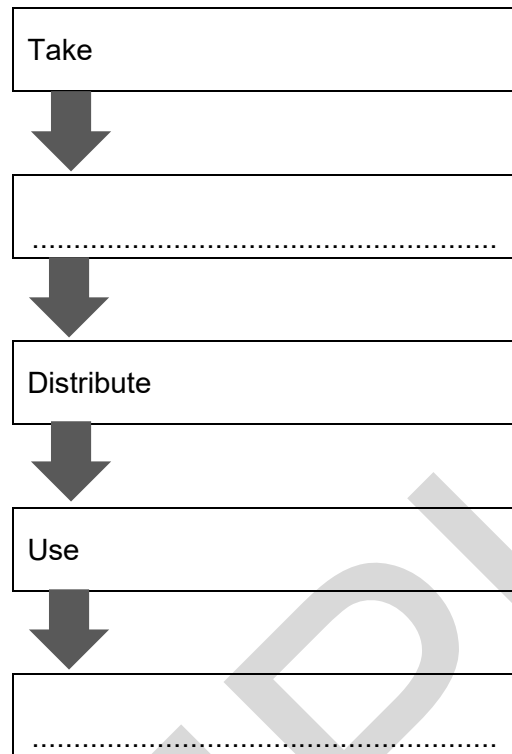
Intervention	Law	Grant	Taxation
Since June 2022, all new homes and buildings in England must have electric vehicle (EV) charging points fitted			
Fuel duty on unleaded petrol to increase by 5%			

[2]

SAW

7

(a) Complete the diagram of linear economies by adding the **two** missing stages.



[2]

(b) State **two** disadvantages of linear economies for sustainability.

1

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2

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[2]

- 8 Two months ago, Finley saw an advert in a fashion magazine for a new coat and decided to buy one. The advert claimed that the coat was made from 100% recycled plastic.

Circular Coats – 100% recycled plastic

Our fashionable coats look great and keep you warm, but they'll also be saving plastic bottles from ending up in yet another landfill.

Circular Coats are made from 100% recycled plastic and sent to your door in our unique recycled packaging.

- Colours available: green and black
- Sizes available: small, medium and large

Look good and be **sustainable**.



'Keep warm, be more environmentally friendly and do your bit to save the planet'

www.circularcoats.co.uk

However, Finley has just read a newspaper article which states that only the coat packaging is made from 100% recycled materials. The coat is made from only 60% recycled plastic.

The Advertising Standards Authority (ASA) has stated that the advert is misleading and must be withdrawn.

- (a) Explain **two** ways that greenwashing affected Finley's decision to buy the coat.

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[4]

- (b) Explain **two** actions that Finley can take to encourage Circular Coats to challenge their greenwashing practices.

1

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[4]

- 9 Explain **two** techniques that Circular Coats could use to avoid greenwashing in the future.

1

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2

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[4]

- 10 Some companies are unwilling to publish their sustainability successes for fear of being accused of greenwashing.

State what this practice is called.

..... [1]

- 11 Circular Coats delivers a social inclusion project. The factory is based in a town with high unemployment, and many families live on a low income. Circular Coats offered ten local unemployed people a job at its factory with a fair wage. The new employees received two weeks of training to give them the skills to stitch coats with the rest of the team in the factory.

Explain **two** positive impacts of the social inclusion project on the lives of the new employees.

1

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2

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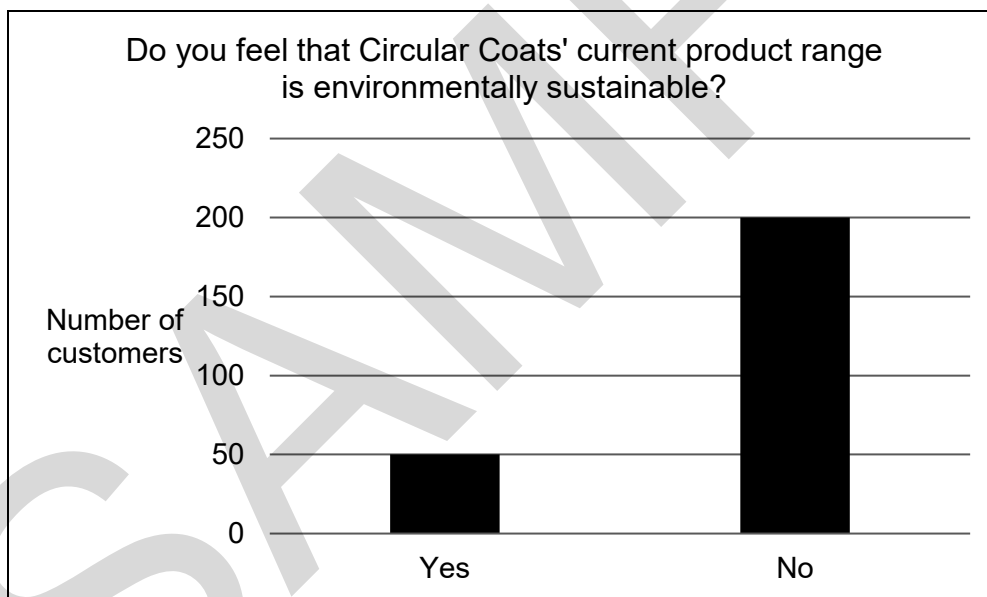
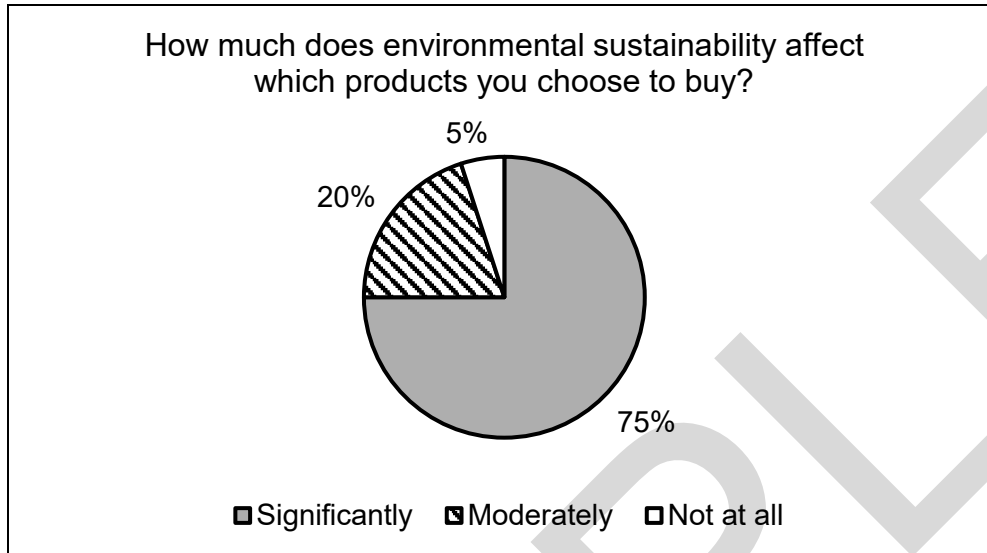
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[4]

- 12** The greenwashing incident has ruined Circular Coats' reputation for clothing. Circular Coats' sales declined after the negative publicity, and it went from making a profit to making a loss. The Marketing Manager wanted to see what Circular Coats' customers and employees really feel about the company and so conducted some research.

A questionnaire was sent to 250 Circular Coats' customers. Some of the results of the questionnaire are shown below:



- (a)** Using the data above, explain if Circular Coats' current product range is sufficiently sustainable to satisfy customers.

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.....[2]

- (b) Circular Coats also had eight employees take part in a focus group. Some comments from the employee focus group are below:
- I am concerned about my job security since the greenwashing incident. Customers have lost trust in the business and its products. Sales are falling. I am looking for another job. Five other people that I worked with have already left and found other jobs. My team has changed.
 - Our customers choose Circular Coats due to its reputation for sustainability, but this unique selling point (USP) has been lost.
 - The company has made a loss since the greenwashing incident. I will not receive a pay rise this year as the company tries to save money.

Using the comments from the employee focus group, explain **one** way that the greenwashing incident has affected employees.

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..... [2]

- 13 Circular Coats is now designing a new rucksack that it will sell instead of coats. The company is relying on the rucksack being a success due to its fall in profits. Circular Coats has a limited budget to create the new product.

Sustainability will be the company's unique selling point (USP), therefore the new rucksack will be made from 100% recycled materials. Circular Coats can also benefit from grants from an environmental charity for businesses that make products from 100% recycled materials.

Circular Coats will offer customers a 5% discount off a new rucksack if they return any unwanted used Circular Coats products for recycling. This will make Circular Coats' rucksack different to competitors' products as none of them offer a similar discount.

Discuss whether Circular Coats should complete a life cycle assessment/analysis (LCA) when designing the new sustainable rucksack.

In your answer you must write about:

- any **advantages** for Circular Coats of completing an LCA
- any **disadvantages** for Circular Coats of completing an LCA
- whether you would recommend that Circular Coats complete an LCA **and** your reasons.

[9]

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END OF QUESTION PAPER

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SAMPLE

This is sample assessment material for our specification. It is to help show how the live assessment materials will look. During the lifetime of the qualification you might see small adjustments to the assessment materials. This is part of continuous improvement, designed to help you and your students. We recommend you look at the most recent set of past papers where available.



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Level 3 Certificate in Sustainability

H082 Unit F227: Fundamentals of sustainability

Sample Assessment Material (SAM)

Mark scheme

This document has **12** pages.

SAMPLE

Marking instructions

Crossed-out answers

If a student has crossed out an answer and written a clear alternative, do **not** mark the crossed-out answer.

If a student has crossed out an answer and **not** written a clear alternative, give the student the benefit of the doubt and mark the crossed-out answer if it's readable.

Multiple choice question answers

When a multiple choice question has only one correct answer and a student has written two or more answers (even if one of these answers is correct), you should **not** award a mark.

When a student writes more than one answer

1. Questions that ask for a set number (including 1) of short answers or points

If a question asks for a set number of short answers or points (e.g. **two** reasons for something), mark only the **first set number** of answers/points.

First mark the answers/points against any printed numbers on the answer lines, marking the **first** answer/point written against each printed number. **Then**, if students have not followed the printed numbers, mark the answers/points from left to right on each line and **then** line by line until the set number of answers/points have been marked. Do **not** mark the remaining answers/points.

2. Questions that ask for a single developed answer

If a student has written two or more answers to a question that only requires a single (developed) answer, and has **not** crossed out unintended answers, mark only the first answer.

3. Contradictory answers in points-based questions

When a student has written contradictory answers, do **not** award any marks, even if one of the answers is correct.

Levels of Response marking

1. To determine the level start at the highest level and work down until you reach the level that best describes the answer

2. To determine the mark within the level, consider the following:

Quality of the answer	Award mark
Consistently meets the criteria for this level	At the top of the level (6 and 9 mark questions)
Meets the criteria but with some inconsistency	At the middle of the level (9 mark questions)
On the borderline of this level and the one below	At the bottom of the level (6 and 9 mark questions)

ANNOTATIONS

Annotation	Meaning

MARK SCHEME

1 (a)	
Max mark	1 (PO2)
Answer	Education (1)
Guidance	Correct answer only

1 (b)	
Max mark	2 (PO1)
Answer	One mark for stating each advantage, up to a maximum of two marks. Any two from: • Peers are trustworthy as the person knows them personally (1) • Peers will be of a similar age/background, so their suggestions are more likely to fit the individual's lifestyle (1) • Peers can support each other (1) • The individual will be keen to 'fit in' with their friendship group (1) • The peer can answer any questions that the individual may have (1) Credit any other appropriate response.
Guidance	One mark for each correct advantage identified. Maximum two advantages.

2	
Max mark	2 (PO1)
Answer	Increased use of solar energy (1) Replace appliances with more energy efficient models (1)
Guidance	One mark for each correct answer. Correct answers only. If a student ticks more than two boxes , award 0 marks for the whole question.

3	
Max mark	3 (PO1)
Answer	Scarcity (1) Need (1) Opportunity costs (1)
Guidance	Correct answer only Answers must be in the correct order

4 (a)	
Max mark	2 (PO2)
Answer	One mark for describing each correct trend, up to a maximum of two marks. Any two from: • UK temperatures have been getting warmer • Three of the hottest days in the last 4 years exceeded 37 °C, and only two other of the hottest days since 1970 were that hot • All the hottest days over the last 10 years exceeded 32 °C Credit any other appropriate response.
Guidance	Two valid trends from the data in the graph

4 (b)	
Max mark	2 (PO2)
Answer	One mark for each correct effect identified from the stimulus, up to a maximum of two marks. Any two from: • Increased flood risk • Reduced biodiversity • Increasing temperatures • Increased frequency of severe weather events Credit any other appropriate response.
Guidance	One mark for each correct effect identified. Maximum two effects

4 (c)	
Max mark	4 (PO2)
Answer	Up to two marks for each explanation of a climate change adaptation strategy used by the developer when designing the development. One mark for identifying the strategy. One mark for saying how the strategy works in adapting to climate change, e.g.: • Flood protection/defences (1) were built on the development to protect the homes from flooding (1) • Designed to include green spaces with trees and plants (1) to attract insects and wildlife (1) • Including trees and plants on the development (1) to absorb atmospheric carbon via photosynthesis (1) Credit any other appropriate response.
Guidance	Up to two marks for each valid strategy identified. Maximum two strategies. Note: The two strategies identified must be different, but both can be adapting to the same effect of climate change.

5	
Max mark	2 (PO1)
Answer	One mark for stating each title, up to a maximum of two marks. Any two from: 1. No Poverty 2. Zero Hunger 3. Good Health and Well-being 4. Quality Education 5. Gender Equality 6. Clean Water and Sanitation 7. Affordable and Clean Energy 8. Decent Work and Economic Growth 9. Industry, Innovation and Infrastructure 10. Reduced Inequality 11. Sustainable Cities and Communities 12. Responsible Consumption and Production 13. Climate Action 14. Life Below Water 15. Life On Land 16. Peace, Justice, and Strong Institutions 17. Partnerships for the Goals
Guidance	One mark for each correct goal identified. Maximum two goals.

6 (a)																
Max mark	2 (PO1)															
Answer	<table><tr><td>Intervention</td><td>Law</td><td>Grant</td><td>Taxation</td></tr><tr><td>Since June 2022, all new homes and buildings in England must have electric vehicle (EV) charging points fitted</td><td>X (1)</td><td></td><td></td></tr><tr><td>Fuel duty on unleaded petrol to increase by 5%</td><td></td><td></td><td>X (1)</td></tr></table>				Intervention	Law	Grant	Taxation	Since June 2022, all new homes and buildings in England must have electric vehicle (EV) charging points fitted	X (1)			Fuel duty on unleaded petrol to increase by 5%			X (1)
Intervention	Law	Grant	Taxation													
Since June 2022, all new homes and buildings in England must have electric vehicle (EV) charging points fitted	X (1)															
Fuel duty on unleaded petrol to increase by 5%			X (1)													
Guidance	One mark for each correct answer. Correct answers only.															

6 (b)	
Max mark	6 (PO3)
Levels of Response	Level 3 (high) 5-6 marks A thorough analysis, which includes: • identification of a range of reasons • detailed knowledge and understanding in the context of the question • clear explanation • consistent use of appropriate subject terminology.

	Level 2 (mid) 3-4 marks An adequate analysis, which includes: • identification of some reasons • sound knowledge and understanding in the context of the question • adequate explanation • some use of appropriate subject terminology. Level 1 (low) 1-2 marks A basic analysis, which includes: • identification of at least one reason • limited knowledge and understanding in the context of the question • basic explanation • use of appropriate subject terminology is limited. 0 marks Answer is not worthy of credit.
Indicative content	Answers can include some of the following: Possible advantages: • Finley will be able to afford to install solar panels. The government grant provides the money to buy the solar panels which benefits Finley as they spent their savings on buying the new home. • Finley does not have to repay the money back to the government, which is an advantage as Finley has little spare money each month for monthly repayments after paying their mortgage each month. • Finley does not get into debt, which is important as they already have a mortgage. • Finley is expected to reduce their energy bill by £500 per year. This is a large saving, especially as they used all their savings to buy the new home. The savings will also increase Finley's spare money each month, which is currently limited after mortgage repayments. • The investment will have a positive impact on Finley's mental health. They will have the personal satisfaction of knowing that they have done their bit to help the climate crisis. • Finley may tell their neighbours about the grant to install the solar panels. Sharing details of the grant may encourage other neighbours to install solar panels too, which will further support sustainability in the community. Finley will have the personal satisfaction of knowing that they have helped neighbours to live more sustainably and save money on their energy bills. • Finley does not have to pay any fees or interest on the money given through a grant, which is an advantage as Finley has little spare money at the end of each month for fees or interest. Credit other relevant conclusions, points and examples.

7 (a)	
Max mark	2 (PO1)
Answer	Make (1) Waste (1)
Guidance	Correct answer only Answers must be in the correct order

7 (b)	
Max mark	2 (PO1)
Answer	Any two from • Risk of scarce resources being used/exhausted (1) • Increased economic cost due to waste management (1) • Increased pollution due to the waste created (1) • More waste going to landfill (1) • Increased CO2 emissions to keep creating new materials (1) Credit any other appropriate response.
Guidance	Up to one mark for each valid disadvantage identified

8 (a)	
Max mark	4 (PO2)
Answer	Up to two marks for each way that greenwashing influenced Finley's purchasing decision One mark for identifying the way One mark for saying how the way affected Finley's purchasing decision e.g.: • Greenwashing triggered emotions (1) by highlighting how customers will reduce the amount of waste going to landfill (1) • Social influences (1) by highlighting that the coat is fashionable/the advert appeared in a fashion magazine (1) • Cognitive bias (1) as Finley thinks the coat is made solely from recycled plastic (1) • The advert included misleading information about the amount of recycled plastic (1) which distorted Finley's decision-making (1). Credit any other appropriate response.
Guidance	Up to two marks for each valid way identified. Maximum two ways.

8 (b)	
Max mark	4 (PO2)
Answer	Up to two marks for each action that Finley could take to encourage Circular Coats to challenge their green washing practices. One mark for identifying the action. One mark for saying how the action may encourage a challenge to greenwashing, e.g.: • Finley could organise a protest (1) to tell others that its coats are not made from 100% recycled plastic (1) • A petition (1) so customers can sign to express how unhappy they are that 40% of material in the coat is non-recycled (1) • Boycott (1) so that no more green or black coats are purchased (1) • Write a negative review (1) to inform others that the ASA has withdrawn the coat advert (1) Do not accept: • Contacting the ASA Credit any other appropriate response.
Guidance	Up to two marks for each valid action identified. Maximum two actions.

9	
Max mark	4 (PO2)
Answer	Up to two marks for each explanation of a technique to avoid greenwashing in the future. One mark for identifying the technique. One mark for saying how the technique will help Circular Coats avoid greenwashing in the future, e.g.: • Double check all data to verify it before publishing (1) to ensure that 60% is included on advertising rather than 100% (1) • Ensure all data is up to date (1) so that the correct percentage of material from recycled plastic is quoted (1) • Use data from independent third-party sources (1) who can validate that wearing the coat will help save the planet (1) • Keep to the facts (1) as 'save the planet' cannot be substantiated (1). Credit any other appropriate response.
Guidance	Up to two marks for each valid technique identified. Maximum two techniques.

10	
Max mark	1 (PO1)
Answer	Greenhushing (1)
Guidance	Correct answer only

11	
Max mark	4 (PO2)
Answer	Up to two marks for each positive impact of the social inclusion project on the lives of the new employees. One mark for identifying the positive impact. One mark for saying how the social inclusion project has a positive impact on the lives of the new employees, e.g.: • The employees will earn a fair wage to support their family (1) which will be more than when unemployed (1) • The employees will work as a team with other people (1) so they can make new friends (1) • The employees will learn new skills to stitch coats (1) which will boost their confidence and self-esteem (1) • The employees will attend two weeks of training (1) to learn new skills (1) Credit any other appropriate response.
Guidance	Up to two marks for each valid positive impact identified. Maximum two impacts. Ensure the impacts are positive.

12 (a)	
Max mark	2 (PO2)
Answer	Two marks for explaining if Circular Coats' current product range is sufficiently sustainable to satisfy customers using relevant data e.g.: • Environmental sustainability significantly affects the purchasing decisions of 75% of customers (1). However, 80% of customers believe that the current product range is not environmentally friendly, so will not satisfy the needs of current customers (1) • 200 of the 250 customers surveyed feel that the current product range is not environmentally sustainable (1), so will only satisfy the needs of the 20% of customers who do not consider environmental sustainability when choosing products to buy (1). Credit any other appropriate response.
Guidance	Must use data from the stimulus to support the answer to gain each mark.

12 (b)	
Max mark	2 (PO2)
Answer	One mark for identifying one way that the greenwashing incident has affected employees from the focus group comments One mark for explaining how the way has affected employees • Sales are falling/profits reducing so the employees are aware their jobs are less secure (1), so employees are looking for other jobs with more security (1). • Five employees have already left Circular Coats for other jobs (1), so the employee's internal teams are changing (1). • Employees may not receive a pay rise (1) as Circular Coats may not afford to offer one due to falling profits (1). Credit any other appropriate response.
Guidance	Must use information from the employee focus group to support the answer to gain the full two marks.

13	
Max mark	9 (PO3)
Levels of Response	Level 3 (high) 7-9 marks A thorough discussion which shows detailed evaluation, which includes: • a range of points from both sides of the argument • a detailed analysis in the context of the question • a clear conclusion(s) with detailed reasons/justifications • consistent use of appropriate subject terminology. Level 2 (mid) 4-6 marks An adequate discussion which shows sound evaluation, which includes: • some points from both sides of the argument • some analysis in the context of the question • an adequate conclusion(s) with relevant reasons/justifications • some use of appropriate subject terminology. Level 1 (low) 1-3 marks A basic discussion which shows limited evaluation, which includes: • a few points from the argument • a limited analysis in the context of the question • a brief conclusion(s) with limited reasons/justifications • use of appropriate subject terminology is limited. 0 marks Answer is not worthy of credit.

Indicative content	Answers can include some of the following: Advantages for Circular Coats of completing a life cycle assessment/analysis (LCA): • Considers the environmental impact of the product from raw material extract, throughout its use and post-usage/disposal. The life cycle analysis can help identify hotspots to support specific improvements. • Can help the business to operate more efficiently and reduce waste. • Can support a circular economy. • Can help the company to develop evidence for their unique selling point as no competitor offers a 5% discount off a new rucksack if they return any unwanted used product. • Can make the product more desirable to the growing number of customers who are concerned about sustainability. The questionnaire results shows that 75% of the 250 customers consider environmental sustainability when choosing which product to buy. • Can make the company more financially sustainable as its products will better satisfy customers. This can lead to greater job security for employees. The greenwashing incident resulted in the business making a loss. • Circular Coats can benefit from grants from an environmental charity as the new rucksack will be made from 100% recycled materials. This is particularly important as the business has made a loss after the greenwashing incident. The grant can be used to financially support the development of the new product, especially as Circular Coats has a limited budget. Disadvantages for Circular Coats of completing a life cycle assessment/analysis (LCA): • Limited data may be available, especially after the main use of the product. Customers are unlikely to maintain contact with a company after buying a rucksack. • The assumptions made during the LCA may be simplistic and not aligned to the real world. • Investment decisions may be delayed whilst creating the LCA. Circular Coats may be late launching the new ruck sack on the market. The competitors may also identify the opportunity to offer a discount to customers that return any unwanted used products. Circular Coats will lose their USP if this happens. • Expensive. Conducting LCA can add to the costs of new product design. Circular Coats is no longer making a profit and has a limited budget. It will not be able to afford additional costs. Credit other relevant conclusions, points and examples.
----------------------------------	--